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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,249	01/22/2002	Hiroshi Shimanuki	IIW-014	8356

959 7590 08/11/2005

LAHIVE & COCKFIELD, LLP.  
28 STATE STREET  
BOSTON, MA 02109

EXAMINER
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MAPLES, JOHN S

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/055,249

Applicant(s)

SHIMANUKI ET AL.

Examiner

John S. Maples

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 ~~is/are~~ are pending in the application.
- 4a) Of the above claim(s) 10 and 11 ~~is/are~~ are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12 ~~is/are~~ are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1745

1. Applicant's election with traverse of Group I in the reply filed on May 18, 2005 is acknowledged. The traversal is on the grounds that the two groups are so interrelated that no serious burden would be placed on the examiner. This is not found persuasive because the groups are different as set forth in the April 18, 2005 restriction requirement. The difference in the types of permeable membranes requires different searches and thus would impose serious additional burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 5-9 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by either Voss et al.-US 6,106,964 ('964) or Voss et al.-US 6,416,895. ('895)  
(New Rejections)

See the Abstract in '964 along with Figures 1 and 2 and column 6, lines 11-29 and column 9, line 15 through column 10, line 58. These portions of '964 teach using the cathode off gas moisture through a non-porous water permeable membrane to humidify both the fuel gas and the oxidant gas. The '964 patent uses NAFION as the

Art Unit: 1745

water permeable membrane and as such would inherently be a non-porous water permeable membrane as applicant is claiming.

With regards to '895, reference is made to the Abstract therein along with Figures 1 and 2, column 6, lines 15-33 and column 9, line 17 through column 10, line 60. These portions of '895 teach using the cathode off gas moisture through a non-porous water permeable membrane to humidify both the fuel gas and the oxidant gas. The '895 patent uses NAFION as the water permeable membrane and as such would inherently be a non-porous water permeable membrane as applicant is claiming.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over either '964 or '895. (New Rejections)

Art Unit: 1745

The only claimed features not taught by either '964 or '895 are the plurality of humidifiers. To have utilized a plurality of humidifiers in either '964 or '895 would have been obvious to one of ordinary skill in this art at the time the invention was made so that both the fuel gas and the oxidant gas would receive a sufficient amount of humidity before entering the fuel cell. This is a notoriously well known step to include more elements in a system to increase the amount of moisture therein.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-1287. The examiner can normally be reached on Monday-Thursday, 6:15-3:45, every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**JOHN S. MAPLES**  
**PRIMARY EXAMINER**



JSM/8-8-2005